NAVAL WAR COLLEGE Newport, R.I.

TOTAL QUALITY OPERATIONAL LEADERSHIP: THE ROLE OF TOTAL QUALITY LEADERSHIP IN JOINT MILITARY OPERATIONS

by

Anthony J. Cox LCDR, CEC, USN

A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Department of Joint Military Operations

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.

07 February 1997

DTIC QUALITY INSPECTED

Paper directed by George W. Jackson, Captain, USN Chairman, Joint Military Operations Department

19970520 213

07 Feb 96 Faculty Advisor

Date

A. Shimkus, CAPT(S), NC, USN Instructor, Department of National Security Decision Making

This Page <u>UNCLASSIFIED</u>

REPORT DOCUMENTATION PAGE

1. Report Security Classification: UNCLASSIFIED				
2. Security Classification Authority:				
3. Declassification/Downgrading Schedule:				
4. Distribution/Availability of Report: DISTRIBUTION STATEMENT A: APPROVED FOR PUBLIC RELEASE; DISTRIBUTION IS UNLIMITED.				
5. Name of Performing Organization:				
	OINT MILITARY OPERATIONS DEPARTMENT			
6. Office Symbol:	7. Address: NAVAL WAR COLLEGE			
С	686 CUSHING ROAD			
	NEWPORT, RI 02841-1207			
8. Title (Include Security Classification): (U) TOTAL QUALITY OPERATIONAL LEADERSHIP: THE ROLE OF TOTAL QUALITY LEADERSHIP IN JOINT MILITARY OPERATIONS				
9. Personal Authors: ANTHONY J. COX, LIEUTENANT COMMANDER, CEC, USN				
10.Type of Report: FINAL	11. Date of Report: 7 FEBRUARY 1997			
12.Page Count: # 26				
satisfaction of the requirements of t	ubmitted to the Faculty of the NWC in partial the JMO Department. The contents of this paper not necessarily endorsed by the NWC or the			
14. Ten key words that relate to your paper: TOTAL QUALITY LEADERSHIP; OPERATIONAL LEADERSHIP; MANAGEMENT; DEPARTMENT OF DEFENSE				
15.Abstract:				
why are they regarded as separate and dist Defense? If they are not, is there a "sup Operational leadership is a confusing cond	d operational leadership the same thing? If they are, sinct forms of leadership within the Department of oporting role" for TQL in Joint Militery Operations? Sept for today's tactically oriented officers who will be Leadership in the total quality philosophy has been			

This paper provides a structured framework for analysis of operational leadership and TQL. Both forms of leadership are distilled, focused and described in terms of related attributes within the framework. Selected attributes are compared and contrasted, with suggestions made for how TQL can help the operational commander.

mistaken for management, which is different from leadership.

Integrity forms the foundation of both forms of leadership. Vision, motivation, and communication, the three functions of a leader, are also essentially the same. Empowerment has a place in the operational theater. The small, independent manuevering units of tomorrow's dispersed, digitized battlespace will demand decentralizing traditional control and relying instead on a shared vision and an ingrained understanding of the Commander's Intent at the unit level. TQL is not a substitute for operational leadership, but it has applications: supporting the "fighting forces customer" with a service-minded staff, guided by a commander whose focus is to supply resources (and guidance) to the troops, the empowered task force can face the changing multi-mission environment.

16.Distribution / Availability of	Unclassified	Same As Rpt	DTIC Users	
Abstract:	x			
17.Abstract Security	Classification: U	NCLASSIFIED		
18.Name of Responsib	le Individual: CHA	IRMAN, JOINT MILITARY OPER	ATIONS DEPARTMENT	
19.Telephone: 841-6	461	20.Office Symbol:	С	

This Page <u>UNCLASSIFIED</u>

ABSTRACT

Are Total Quality Leadership (TQL) and operational leadership the same thing? If they are, why are they regarded as separate and distinct forms of leadership within the Department of Defense? If they are not, is there a "supporting role" for TQL in Joint Militery Operations? Operational leadership is a confusing concept for today's tactically oriented officers who will be tomorrow's Joint Task Force Commanders. Leadership in the total quality philosophy has been mistaken for management, which is different from leadership.

This paper provides a structured framework for analysis of operational leadership and TQL.

Both forms of leadership are distilled, focused and described in terms of related attributes within the framework. Selected attributes are compared and contrasted, with suggestions made for how TQL can help the operational commander.

Integrity forms the foundation of both forms of leadership. Vision, motivation, and communication, the three functions of a leader, are also essentially the same. Empowerment has a place in the operational theater. The small, independent manuevering units of tomorrow's dispersed, digitized battlespace will demand decentralizing traditional control and relying instead on a shared vision and an ingrained understanding of the Commander's Intent at the unit level. TQL is not a substitute for operational leadership, but it has applications: supporting the "fighting forces customer" with a service-minded staff, guided by a commander whose focus is to supply resources(and guidance) to the troops, the empowered task force can face the changing multi-mission environment.

TABLE OF CONTENTS

INTRODUCTION	1
OPERATIONAL AND TOTAL QUALITY LEADERSHIP DEFINED	2
A Framework for Analysis	2
Summary of Operational Leadership	3
Summary of Total Quality Leadership	7
OPERATIONAL AND TOTAL QUALITY LEADERSHIP COMPARED	10
Zerbitt EEMBERGIII COMI ARED	10
INTEGRATION: USING TQL IN OPERATIONAL LEADERSHIP	14
CONCLUSION	17
Notes	
INOTES	18

BIBLIOGRAPHY

INTRODUCTION

In 1986 two events occurred which drastically impacted the Department of Defense and the Armed Services. The Goldwater-Nichols Act reorganized the command and control structure of the operating forces, placing a great emphasis on jointness and sparking a renaissance in Operational Art, including the principles of Operational Leadership. The DoD also embraced Total Quality Management (TQM) as a philosophy of continuous improvement in mission accomplishment through a participative, systematic and customer oriented approach to leadership and management. Although both concurrent initiatives are essentially means toward more effective accomplishment of the armed forces' mission, Operational Leadership and Total Quality Leadership (TQL) have been regarded as separate and distinct. Operational Leaders have viewed TQL as applicable only to the industrial and support establishments and not to operations afield/afloat. Are TQL and operational leadership the same thing? If they are, why are they regarded as separate? If not, is there a "supporting role" for TQL in Joint Military Operations?

The problem is twofold. First, few officers understand either of these abstract forms of leadership completely. Operational Leadership is a confusing concept for today's tactically oriented officers who will be tomorrow's Joint Task Force Commanders. The broad array of literature describing Operational Leadership is vague and unstructured. Leadership in the total quality philosophy has been mistaken for TQM and has been implemented incorrectly by the Department of Defense. Literature describing the role of the senior leader in TQL is sparse. In fact, no authoritative, structured description of Total Quality *Leadership* is available today. Second, because of these misunderstandings, the operational community tends to dismiss out of hand any integration of the two forms of leadership. No serious, structured attempt has been made to compare Operational Leadership and TQL.

This paper provides a structured framework for analysis of Operational Leadership and TQL.

Both forms of leadership will be distilled, focused and described in terms of related attributes within this framework. Selected attributes, as well as the overall essence of each form of leadership, will be

compared and contrasted. Based on this analysis, suggestions will be made for how TQL may be able to support the operational commander.

The world of Joint Military Operations today is increasingly complex, with multinational and interagency partnerships carrying out a myriad of missions having multiple political and military objectives. Change in the military is happening so fast it is becoming a constant, and the operational commander must change with it. Whether it is perceived as an "apple" or an "orange", TQL may be able to provide the Operational Commander the ability to keep pace.

OPERATIONAL AND TOTAL QUALITY LEADERSHIP DEFINED

A Framework for Analysis

To compare "apples and apples" requires distilling, focusing and framing these two abstract forms of leadership. First, leadership is distilled from management. Effective leadership and management must combine for success, but they are distinctly different concepts. Management consists of processes which produce a degree of consistency and order in complex organizations, such as budgeting, staffing and controlling². Leadership consists of specific efforts to produce change, to move people toward some state in which they are better off.

Second, the focus is on leadership at the "operational" level. Just as leadership differs from management, leading higher organizational levels is different from lower levels. Most officers understand that the operational leader must be less of technician and more of a generalist than the tactical leader, and must exert a more indirect influence on a larger organization to accomplish a broader mission³. It is less understood that leadership in the total quality philosophy takes different forms at different organization levels also. The chief executive committed to implementing and achieving Total Quality has a very different role from the front-line service provider and process team leader. And in the middle is the "commander level", the senior leader which is the most critical "QL's success in the military. "The [Military's] Commanders and Commanding Officers will deimine if TQL's promise will be met".

Finally, leadership attributes can generally be framed by three broad categories: character, knowledge and skills/abilities⁵. Character is the core of an effective leader, what the leader must BE. To Eisenhower, "character in many ways is everything in leadership," Knowledge is the enabling aspect of leadership, what every leader must KNOW to effectively influence others toward a common goal. Skills/abilities are the tools of leadership, those visible attributes which a leader must show or DO. The completed framework is summarized below and in Figure 1.

Summary of Operational Leadership

Within the three part framework, 14 attributes characterize successful operational leaders⁷. This is not a 14-point prescription for success, however, since "[operational] command is an art... exercised by each man in his own way".8.

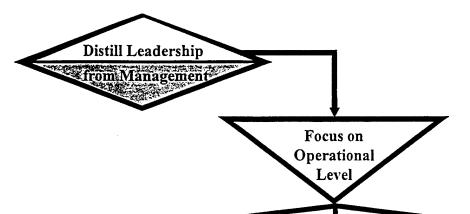
CHARACTER AND TEMPERAMENT

Moral Courage: Integrity and Boldness. Carl von Clausewitz differentiated the physical definition of courage (resolution in the face of danger) from moral courage, "the courage to accept responsibility". Moral courage is synonymous with integrity:

"Moral Courage simply means that you do what you think is right without bothering too much about the effect or yourself... You must be as big as your job, [which means] you must not be too afraid of losing it."

Boldness is simply the acceptance of calculated risks. Boldness is completely linked with moral courage at the operational level because, without knowing "the right thing to do", boldness can degenerate into brashness, followed by failure¹¹. Conversely, moral courage without boldness breeds caution, which can also lead to failure.

Strength of Will & Determination: Much more than just "stick-to-it-iveness", strength of will is a vibrant positive force that must overcome the inertia of low morale and counter the friction from such things as the uncooperative enemy, unpredictable nature, independent allies and even the commander's own cautious staff. Strength of will can also be thought of as determination, or the moral courage to follow boldness and intuition in the face of distracting inertia and friction. With his forces pinned at Pusan, MacArthur displayed great determination in continuing plans for landing in Inchon despite



OPERATIONAL LEADERSHIP

• CHARACTER

- > Moral Courage and Boldness
- > Strength of Will (Determination)
- > Decisive Judgment
 - -- Decision Making
 - -- Coup d'Oeil
- > Creativity and Imagination
- > Vision

KNOWLEDGE

- > Motivation (Human Nature)
- > The Operational Art
- > Knowing Your Enemy
- > Technical Expertise & Capabilities
- > Logistical Requirements & Capabilities

SKILLS AND ABILITIES

- > Persuasive Communication
- > Physical Fitness & Mental Agility
- > Sense of Locality
- > Joint Focus

TOTAL QUALITY LEADERSHIP

• CHARACTER

- > Integrity and Shared Values
- > Master of Change
 - -- Commitment to Continuous Improvement
- > Prime Supplier
- > Shared Vision

KNOWLEDGE

- > Empowerment
- > Process Leadership
 - -- Chain of Customers
- > The Nature of Quality
- > Understanding Variation
- > Understanding Failure

SKILLS AND ABILITIES

- > Break Down Barriers
- > Team-Building
- > Instill Self-Improvement

Figure 1. Leadership Analysis Framework.

objections from the Joint Chiefs of Staff.¹² Determination must be governed by intellect, or it may "degenerate into obstinacy"¹³. Field Marshall Sir Douglas Haig is an example of an obstinate commander in WWI who proceeded with the Third Battle of Ypres, against all advice, with an inflexible view that it would be the decisive victory over the Germans¹⁴.

Decisive Judgment: Decision Making and Coup d'Oeil. Like boldness, judgment at the.

operational level is a matter of risk management. Commanders must frequently follow General Perry

Smith's "60 percent rule", making decisions when only 60 percent of the relevent information is

available 15. General Patton firmly believed "that an imperfect decision executed at once was worth more
than a perfect solution later" 16. Coup d'Oeil, or the "inward eye" of intellectual intuition guides the
leader to the right decision at the right time 17.

Creativity and Imagination (Flexibility of Mind). "Rommel, you magnificent bastard. I read your book!", Patton exclaimed as he defeated the "Desert Fox". Predictability spells defeat for any operational commander. Creativity and imagination at the operational level simply means the talent for befuddling the enemy. Churchill described it as "not only imagination, but also an element of legerdemain, an original and sinister touch, which leaves the enemy puzzled as well as beaten." 18

Vision: "Strategic vision enables the commander to judge the true nature of the war he is fighting and to link the political goals of that conflict to the military means at his disposal". Strategic vision is more than just a static picture of a desired end state or set of military conditions which spell success. It is the dynamic, synchronized sketch of the end state and the ways and means (or "theory of victory") for attaining it, clearly implanted in the mind of the operational leader.

KNOWLEDGE

Motivation (Human Nature). Simply put, this is energizing people in the command accomplish the mission. Generating motivation at the operational level is a two pronged effort. First, the commander must indirectly instill motivation through the layers of subordinate leaders. At the same time, the commander must directly motivate the troops through visible personal examples of courage,

discipline, fairness and force of personality. General Sir John Hackett described Field Marshall Montgomery as a master of motivation (and showmanship):

"To the 44th Home Counties Division just arrived in the desert, with white knees and... solar topees, he went in shorts, beret, suede boots and bush shirt, swinging a flywisk and telling them they needed desert experience. To us in 7th armoured, the Desert Rats, he came in field boots, breeches, service dress tunic ..and told us we had been in the desert too long and were getting into a groove."

The Operational Art: Beyond his technical/practical expertise, the operational commander must develop a keen understanding of the relationship of time, space and forces, the principles of war and military operations other than war, and the fundamentals of operation design.

Knowing Your Enemy. Good intelligence of enemy capabilities is critical to success of any mission, but the operational commander must assimilate a broad range of data from diverse sources to form a very clear understanding of the force, and particularly the force commander, in opposition.

Technical Expertise and Capabilities. At the tactical level, technical expertise involves detailed knowledge of the men, machines and processes needed to take the fight to the enemy. At the operational level, it is impossible to know how to perform the myriad of processes to be directed. Instead, operational leaders must concentrate on knowing the capabilities of their men and women and the machines they operate, the conditions they operate in, and how long it takes them to do things.

Logistics Requirements and Capabilities. Most commanders will have a firm basis in technical and tactical capabilities and usually have little difficulty knowing what they want to do. Knowing if they can do it with the resources available is more difficult. Logistics is a specialty, so operational leaders without logistical experience may not give due weight to this area. Again, details are not the concern at this level, but knowledge of logistical capabilities and how they can enable or limit an operation is critical to operation success. ".....The real test of a great commander in the field is to be a judge of (logistical) risk..."

SKILLS/ABILITIES

Persuasive Communication. Since the operational leader cannot know or do everything, how should he or she communicate to the command? The crux of the operational commander's communication skill is to convince subordinates of the vision he or she provides. Understanding the vision allows adequate leadership latitude to accomplish the mission and allows the commander to be confident that subordinates' actions will not be at cross purposes to intent.

Physical Fitness and Mental Agility. Today's MOOTW op tempo, let alone the rigors of war, can wear down the body and mind. The operational leader must be rugged, both mentally and physically, to withstand the shock of war.²²

Sense of Locality. Clausewitz described this essential for the commander as "the faculty of quickly and accurately grasping the topography of an area". In order to forge a clear vision and theory of victory, the commander must employ this skill effectively.

Joint Focus: Synergy of Services. Finally, the operational commander must have the ability to thrive in the complex areas of joint and combined operations. There is a consensus among the writers of generalship that "in the complex modern battlefield the senior commander must be able skillfully to synchronize his air, land and naval forces to bring the campaign to a successful conclusion". The challenge today is the same as Rommel faced: "The greatest efforts must be made to control the separatist tendencies of the various services.... Anything which may deflect from the unity of purpose must be utterly eradicated."

Summary of Total Quality Leadership

Just as operational command is a very personal thing, each TQ Leader will adapt the Total Quality philosophy to the organization led. Total Quality Leadership, for example, is an ongoing attempt to tailor the philosophy to the U.S. Navy and its unique operating environment. Similarly, of the 12 attributes identified, the Total Quality leader will tailor each to his business environment.²⁶

CHARACTER OF THE SENIOR TQ LEADER

Integrity and Shared Values. Unquestioned integrity is at the core of every leader. For any team within an organization or government to be pulled together for action, leaders must be congruent in word and deed. They must "walk their talk."²⁷

Master of Change: A Commitment to Continuous Improvement. W. Edwards Deming's dictum to "improve constantly and forever the system of production and service..." is familiar, but what does this mean for the senior TQ leader? Simply, he must become an agent of change. He must believe in his soul that no matter how well a product (good or service) is delivered, it can always be done better. "Commitment" means no lip service; the senior TQ leader must demonstrate repeatedly and visibly this belief of continuous improvement.

Prime Supplier: A New Role for the Boss. The traditional, bureaucratic approach to leadership is to make the boss look good. Instead of focusing on pleasing the customer, we focus on pleasing the boss. The boss becomes the customer! The senior TQ leader breaks this paradigm by acting as the prime supplier for his subordinates, taking as his main function the provision of resources, guidance and working conditions needed for his team to get the job done right.²⁸

Shared Vision. "Most visions are one person's vision imposed on an organization. Such visions, at best, command compliance --- not commitment. A shared vision is a vision that many people are truly committed to, because it reflects their own personal vision." Does this mean a "bottom up" vision? No. The senior leader communicates "top-down" vision in such a way that others are encouraged to share their own visions, then blends each into one living mental image and actively seeks commitment (feeling fully responsible for making the vision happen) to the shared vision from everyone in the organization.

KNOWLEGE FOR THE SENIOR TO LEADER

Empowerment: Motivation By Leveraging Leadership. The boss acting as prime supplier and everyone owning the vision is hard-wired to empowerment: pushing authority down to where it is equal to the responsibility at each level of the organization. Pushing authority down means letting go of it

from above, and the senior TQ leader must "loosen his grip on the stick". Does this mean loss of control? No more than going to "auto-pilot" would. Empowerment does not mean "hands off/do your own thing", however. It means replacing the leader's traditional passive role in centralized control systems with an active role in decentralized belief systems (what one must do), boundary systems (what one can't do), and a shared vision.³⁰

Process Leadership: The Chain-of-Customers. Every leader innately understands the chain of command - the relation between the leader and follower. There is another chain, however, that is just as important but very poorly understood. "The Chain of Customers - the collection and connection of Supplier - Customer processes that represent the lifeblood of the business." Isn't process the province of the manager? Yes, but it is the senior TQ leader which must emphasize this chain to make it as visible and tangible as the chain of command.

Understanding The Nature of Quality. Quality has two meanings. First, quality is defined by the suitability of the product - the features which meet some need. Second, quality is defined by reliability of the product - its freedom from deficiencies.³² The senior TQ leader must consistently balance these two aspects of quality in order to satisfy the customer (the definer of quality).

Understanding Variation: Driving Out Guesswork. It is not necessary for the senior TQ Leader to master statistics, but the nature of variation and how it impacts decision making must be understood³³. The key knowledge is that 94% of the problems facing the leader are caused by the process (the manager's responsibility) and only 6% by people or other process resources (the leader's responsibility). A senior leader's knee-jerk decision to "fix the problem" not only doesn't fix it, but actually makes it worse³⁴.

Understanding Failure: Driving out Fear. "Fixing the problem" by direct leadership action leads to scapegoating and a resultant climate of fear. Future mistakes or problems are hidden or worked around, killing efficiency and breeding even more problems. The senior TQ leader must break this vicious cycle. Using the belief and boundary systems which help control empowerment, the senior

leader can allow failure within reason (i.e., short of breaking the law) and can encourage innovation to overcome real problems.

SKILLS/ABILITIES

Break Down Barriers Between Departments. Fear can shut down an individual, but cross-functional rivalry and turf protection can shut down whole processes. The senior leader's job here is essentially "intercommunication": insisting on removal of communication barriers between key organizational components. By emphasizing the chain of customers and a shared vision, the senior leader focuses on integrating the actions of various departments to avoid any one department "suboptimizing" its performance at the expense of the entire organization.

Team-Building. Interconnected departments naturally work in process-oriented teams. Although nothing new, the true purpose and effective use of teams is poorly understood. Teams exist for two reasons only: to produce innovation or consensus on an issue³⁵. The senior TQ leader must understand the nature of team-building, the difference between team leadership and team facilitation, and know when to employ teams.

Institute Self-Improvement. TOTAL Quality means everybody in the organization adds value.

The more each person improves themselves, the more valuable the organization as well as the individual becomes. Encouraging self-improvement and mentoring others are daily tasks for the senior TQ leader.

OPERATIONAL AND TOTAL QUALITY LEADERSHIP COMPARED

Are Operational Leadership and Total Quality Leadership the same thing? The framework allows us to compare their attributes individually for similarities and differences. It also provides a means to compare the essence of each form overall.

Four attributes are virtually the same in both forms of leadership: integrity, vision, motivation (human nature and empowerment) and communication (persuasion and breaking down barriers). Their similarity is understandable since, aside from integrity, these attributes make up the three functions of

leadership as defined by both the Army and the private sector.³⁶ There are, however, subtle differences in the application and focus.

ARMY	ATTRIBUTE	PRIVATE SECTOR
Providing Purpose	Vision	Establishing Direction
Establishing direction	Communication	Aligning People
Generating motivation	Motivation	Motivating and Inspiring

- Vision. The operational leader provides for his/her command the vision of a desired end state for each operation and military conditions to reach this state. The senior TQ leader provides a vision describing the status of his/her organization at some arbitrarily chosen, specific time in the future.
- *Motivation*. In operational leadership, motivation stems from an understanding of the human factor. The operational leader takes <u>extrinsic</u> steps to meet the needs of the troops in execution of a plan. In TQL, motivation comes through empowerment, creating an environment which intrinsically meets the needs of the workforce.
- Communication. The operational leader is concerned with communicating the vision and fostering good communication throughout the command. In TQL the senior leader's focus is to synergize the command through breaking down barriers between departments.

That *integrity* should appear in both forms of leadership is intuitive. Integrity, or moral courage, is the basis for strength of will and mastering change and other aspects of character. Character, in turn, is the core of every successful leader. To paraphrase General Matthew Ridgway, "[Integrity] is the bedrock upon which the whole edifice of leadership rests."³⁷

Several attributes appear to be different on the surface, but are actually quite similar in intent.

• Determination .vs. Master of Change. Determination that allows a commander to stay the course amidst distractions seems opposite from mastery of the chaotic, continuously changing total

quality climate. Determination, however, is not obstinacy. In fact, General Slim describes determination as being in constant "intellectual tension" with both decisive judgment and creativity.³⁸ All three together form a "balance of mind" which gives the operational leader resolve in the face of "friction", yet still allows him to recognize when change is needed and to creatively adapt his plan. Is this the same as mastery of change? Yes, except for a different focus. For the operational commander, change is managed in meeting the operational objective. For the TQ leader, change 1S the objective.

- Joint Focus .vs. Team-building and Breaking Down Barriers. The ability to synchronize air, land and naval forces for maximum combat power may seem a far cry from the ability to get ten people at a staff meeting not to strangle each other. Yet the requirement to fight joint brings with it an inherent need to construct cross functional and cross service teams. It boils down to the ability of the leader to establish unity of effort. Each member of the team must have an understanding of the other members' missions and objectives, doctrines or perspectives, capabilities and limitations.
- Decisive Judgment .vs. Empowerment. Many of the operational commander's decisions must be made without complete information in an arena of stress, noise and confusion. The operational leader doesn't have the time to "empower" his subordinates and conduct "combat by committee". Decisive judgment of the operational commander appears to be exactly the opposite of the participative, empowering approach of the senior TQ leader. This polarity cuts to the quick of today's argument on the usefulness of the Total Quality philosophy in military operations. It is best addressed by comparing the essence of both forms of leadership.

Boiling down the 14 attributes, Operational Leadership is simply mastering risk and inspiring people in order to persuade an organization to attain a set end state. It is temporal in nature, with tangible start and completion dates and a fixed vision. It revolves around and depends upon the "heroic leader", who energizes followers to accomplish extraordinary feats through wisdom and personal valor.³⁹ The preferred style is authoritarian. The focus of the effort is a destination: victory and stability. Perhaps this temporality and centricity is appropriate, since operational leadership is part of the art of winning

war, and war itself is the collection of brief but violent periods which punctuates our otherwise peaceful history.

TQL, on the other hand, is mastering change and sharing power in order to create an environment where an organization can pursue its evolving vision. It is more continuous and permanent in nature, with an ever-developing vision. The leader and followers share the stage, together providing the energy and drive to accomplish the task at hand. The "coaching" style is preferred. Rather than a destination, TQL's focus is on the continuous improvement journey itself. Does this mean that total quality is purely a peacetime leadership philosophy and has no applicability in war or military operations? This has long been the biggest sticking point in the armed forces' complete adoption and commitment to total quality. Many believe that TQL is fine for preparing for war, but has no place on the battlefield. I disagree.

The chief argument against TQL in the operations arena is that it is "...incompatible with the swift judgment and immediate obedience required on the battlefield". The question is, whose battlefield? The "traditional" set-piece battle and operational design which relied on massing of human beings for firepower emphasized this authoritarian leadership style to coordinate action. Today's dispersed and digitized battlespace is quite a different setting:

"...while coordinated action still requires quick and complete compliance with orders, blind obedience by subordinates who have only limited understanding of the context in which they are acting *reduces combat power*. On the other hand, autonomous obedience by subordinates who understand their commander's objective and have discretion to act as they see fit to further the achievement of that objective can assist numerically inferior forces to win." [my emphasis]⁴³

An "empowered" combat soldier? Think it will never happen? It already has: 60 years ago. In a concept labeled *Auftragstaktik*, "the German Army during the interwar years emphasized trust across ranks, decentralization of authority, and developing in junior leaders the competence and judgment that would make empowering them militarily feasible", A close read of the U.S. Marine Corps'

experimental "Sea Dragon" and the Army's Force XXI concepts should convince everyone that its "back to the future" with the empowered warrior, as well:

"Commanders who do not wish to empower their juniors insist that obedience to command is essential for coherency... the need to know what each element is doing... they are right. about coherency, but wrong about how to achieve it. The optimum form of obedience on the dispersed battlefield is not immediate and unquestioning, it is thoughtful and adapted to the situation as seen through the eyes of the subordinates who understand their commander's intent."

Even with the trend of empowerment, there is still a need to follow orders, and it is a valid argument that "TQL is not 'combat by committee';"⁴⁶. There is nothing in the total quality philosophy that says "give up telling anybody what to do". At the heart of Dr. Deming's 14 points for Transformation of Western Management is point #7: "Institute Leadership". TQL may stress the coaching style as preferred, but it definitely doesn't limit the tools at our disposal. According to the situation, the leader may adopt a style of either directing, coaching, facilitating or delegating mission accomplishment.

The fundamental disconnect is that operational commanders have assumed that Total Quality Leadership can only be a participative "coaching " style while Operational (combat) Leadership is necessarily a centralized, authoritarian style. TQL never was restricted. Operational leaders can't afford to be.

INTEGRATION: USING TQ PRINCIPLES IN OPERATIONAL LEADERSHIP

If TQL does have a place in the theater of Joint Military Operations, what is it? Could some of the principles of TQL help solve today's (or tomorrow's) operational problems? Banisch lists several problems for the today's operational commander, including lack of coordination between component commanders and functional support commanders, strained relations between staffs and component commands, confusion over the Commander's Intent, poor re-assessment and adjustment of plans as they are executed, actually learning from "lessons learned", and conflicts, lack of understanding and divided loyalties on combined staffs. Merging the TQ philosophy into operational leadership might alleviate some of these problems:

Commitment to Continuous Improvement of Every Operational Product. How can continuous improvement apply to operations? What "product" are we selling or serving better than the rest? Who produces it, and how can it be improved? Establishing a process focus (supplier-producer-customer) is the first step. Byron describes that in war and MOOTW, our product is execution of the mission. And the fighting forces are the CUSTOMER. For example, an A-10 squadron's "product" is its mission-close air support- of its "customer"- the ground forces engaged in an operation. Improvement starts by asking the customer how you're doing, and then acting on the feedback.

Customer Orientation: The Total Quality Operations Staff. Some would argue that this identification of suppliers and customers is already an inherent part of the planning process. Is that clear to the actual fighting units themselves, or only to the joint and component staffs? As Byron explains:

"This customer is at the end of the ... bureaucratic food chain, preyed upon by the minions of higher authority, subjected to a myriad of poorly written directives and victimized by a huge collection of disjointed programs, policies and processes that combine to erode the quality of the product. ... Staffs traditionally regard themselves as lilies of the fields, more capable and important than any of their subordinate commands." 51

Applying the TQL "Chain of Customers" orientation at headquarters staffs is the first and most relevant action an operational commander should take to improve mission quality. Its nothing new.

General Slim was very specific about the role that a headquarters staff should play:

"You must insist that your headquarters regards itself as the servant of your fighting troops. ...It must be friendly to the people who come to it from the outside. If an officer comes to HQ to find out something, don't leave him hanging about - have somebody ready to take him to the chap who can give him an answer. ...Your HQ is always under inspection ... from the people who come below..." 52

Commander is PRIME SUPPLIER. Hand in hand with customer orientation of staffs and component forces is the role of the operational commander as a prime supplier. The Commander must supply his task force with the vision, resources and guidance it needs to carry out the mission. This does not mean simply telling subordinates the "what" and standing by to let them figure out the "how", as VADM Metcalf did in Operation URGENT FURY in Grenada. The Commander must actively supply

everything needed, including the objective and the Commander's Intent. At the other extreme, the boss cannot become the customer, as well the case with ADM Halsey at Leyte. With everyone trying to please him, no one, incuding RADM Mitscher, offered any opposing views that might have convinced him to remain in support of his customer (MacArthur's landing force).

Shared Vision: A Force Multiplier. In tomorrow's dispersed and digitized battlespace, it will not only be vital for assigned forces to understand the Commander's intent, but equally imperative to have these independently operating, empowered forces committed to achieving the vision for success in the operation. To reach beyond compliance to full commitment, the commander's vision must be their vision as well. Establishing the vision will become a team-based effort, and the Commander must then be the perpetuator of that vision. 53

Empowerment. As discussed above, empowerment can work in the operational theater, but there is still a need for control. The operational commander can apply a TQL tool here: operational definitions, or belief and boundary systems.⁵⁴ Simply put, this is defining two sets of rules. Belief systems are those things which the forces can (and should) do. Boundary systems are those things which the forces cannot do. Sounds like constraints and restraints? Rules of Engagement? Essentially they are, but they are written for a broader audience than just the troops on the ground. These are ROE for the entire task force, including the staff and support functions as well as the trigger pullers.

Solving the REAL Problem: Using Variation in Decision Making. Understanding variation can help the operational commander make better decisions. The realization that almost all problems which arise in conducting any process (such as planning, intelligence gathering, logistics, etc.) are the fault of the process itself could drastically reduce the number of "overreaction" decisions. Again, this is NOT statistics or rocket science, and it is not new. It is just counter-intuitive to traditional leadership decision-making. Rommel's answer to problems was frequent, snap decisions, issuing impossible orders and then revoking them immediately. "Officers, even generals, could find themselves relieved for even the smallest infractions." General Ridgway, by contrast, did not let "his personal observation [of forward]

unit violations of his standards] get in the way of his requirement to monitor the entire Army's compliance with directions."⁵⁶ When he took action, it was to correct the system, not the private on guard duty.

Cultivating Warriors: Understanding Failure in Operations. Closely related to understanding variation is understanding the mechanics of failure. Again, TQL has pressed the point, but it is an old lesson. General Sir John Hackett described it best:

"A man caught on the rebound from failure can be a wonderful investment... An opportunity to re-establish himself in his own esteem, when he has forfeited it, is something for which a man will give you a great deal in return." ⁵⁷

Contrast this with today's operational environment of "a Gong-show mentality that yanks a skipper off the ship or pushes the junior officer off the track for a mistake".

Team Building and Facilitating a Partnership. Today's operating environment is not only joint and combined, but interagency as well. The operational commander will spend a large part of the time negotiating and "partnering" with allied forces, the State Department, the CIA, or any of dozens of Non-Governmental Organizations and Private Volunteer Organizations in planning and executing a very broad range of operations. Success takes skill in the rather un-military area of consensus-building 59. As mentioned, TQL teams are set up to reach either innovation or consensus using established structures and facilitation techniques. It is perhaps the most important tool in the total quality leader's bag, and it could pay off big in the operational commander's hands.

CONCLUSION

Operational Leadership and TQL are abstract and elusive concepts for many military officers, but both may be defined by a coherent and concise set of attributes. The operational and total quality leader's character, knowledge and skills/abilities are identical in some respects and similar in others, but each has a different focus and application for which it is best suited.

Integrity, the foundation of it all, is identical in both (and I believe ALL) forms of leadership.

Vision, motivation, and communication, the three functions of a leader, are all essentially the same, but

each has a slightly different focus according to how the operational or total quality leader applies them.

Difference in application also disguises similarities in other attributes, such as determination and mastering change, a joint focus and team building, and decisive judgment and empowerment.

Misperceptions over the latter pair of attributes are the crux of the debate over TQL's relevance military operations. Many Commanders believe that TQL's empowering, participative style is useless in war, where decisions must be carried out immediately and without question. This authoritarian model is dated, however. With the broad information and force dispersal characterizing tomorrow's digitized battlespace, the Commander must shift to an empowering style as preferred, decentralizing traditional control and relying instead on a shared vision and an ingrained understanding of the Commander's Intent by the executing unit. This doesn't mean that there won't be situations where the Commander will have to step in and take authoritarian control. TQL recognizes these situations, as well.

The character of an operational leader is regarded as the benchmark of leadership by both the military and, interestingly, the private sector. To paraphrase J. Daniel Howard, TQL is NOT a substitute for leadership. But the Total Quality philosophy definitely has application in today's complex military operations leadership. Supporting the "fighting forces customer" with a service-minded staff, guided by a Commander dedicated to supplying the needs of his troops, the empowered task force can face the changing multi-mission environment.

Change is the keyword. Operational Leadership is the art of mastering risk and inspiring people to win war. Total Quality Leadership is the art of mastering change and sharing power to move people forward. In the future, there will be war. And there will be change. And the Operational Commander will be in charge of both.

Each of the armed services and, indeed, each of the two dozen or so DOD Agencies is each implementing its own independent TQ effort. While this may work for the service or agency itself, it suboptimizes the joint force capability of the DOD as a government service organization. See Garvey, Patrick K., and Watson, Thomas F., "DOD Total Quality Management for Improved Joint Combat Capability", Unpublished Research Paper, (Carlisle Barracks, PA: U.S. Army War College, 1993), 2.

² Kotter, John P. <u>A Force for Change: How Leadership Differs From Management</u> (New York: The Free Press, 1990), 4.

Waddell III, Donald E. "A Situational Leadership Model for Military Leaders", Airpower Journal, Fall 1994, 35.

⁴ Byron, John L. "Welcome to the Revolution", U.S. Naval Institute Proceedings, October 1991, 30.

These three categories represent a consolidation of works from both forms of leadership. Major Mitchell Zais developed these categories, among others, from the U.S. Army Manual FM 22-100, Military Leadership. Edwin Locke cites "an integration of recent works on leadership" in describing motives, traits, knowledge, skills and abilities as core characteristics of a leader. Gardner consolidates Zais' earlier taxonomy and provides a thorough review of both "classical" and modern military leadership theorists. (See Zais, Mitchell M., "Generalship and the Art of Senior Command: Historical and Scientific Perspectives", Thesis, Fort Leavenworth KS: U.S. Army Command and General Staff College, 1985.; Gardner, Gregory C. "Generalship in War: The Principles of Operational Command", Fort Leavenworth, KS: U.S. Army Command and General Staff College, 1987; Locke, Edwin A., and Associates. The Essence of Leadership: The Four Keys to Leading Successfully, New York: Lexington Books, 1991.)

⁶ Black, Charles M. "Leadership at the Operational Level", Carlisle Barracks, PA: U.S. Army War College, 1988,

^{5.}While there have been many operational leadership theorists, their descriptions of attributes of the leader have been vague and unstructured. Gardner has done the best job of consolidating and organizing these attributes for further study, but compresses them too far. I have drawn heavily from the classical work of Clausewitz and the modern writing of Field Marshal Sir William Slim in reconstructing these attributes.

⁸ Slim, William. "Higher Command in War", Kermit Roosevelt Lecture, Fort Leavenworth, Kansas: U.S. Army Command and General Staff College, transcript on file, 2.

⁹ Clausewitz, On War. (Michael Howard and Peter Paret, Eds. And Trans.), (Princeton, NJ: Princeton University Press, 1984), 101.

¹⁰ Slim, 4.

¹¹ Banisch, Werner W. "Leadership at the Operational Level, Army, August 1987, 54.

¹² Gardner, Gregory C. "Generalship in War: The Principles of Operational Command", Fort Leavenworth, KS: U.S. Army Command and General Staff College, 1987, 21.

¹³ Clausewitz, 108.

¹⁴ Brinkley, Phillip L. "The Operational Commander's Will: An Intangible Element in Victory", Fort Leavenworth KS: U.S. Army Command and General Staff College, 1986, 12.

¹⁵ Smith, Perry M. <u>Taking Charge: Making the Right Choices</u>, (Garden City Park, NY: Avery Publishing Group, 1993), 108.

¹⁶ Banisch, 54.

¹⁷ Clausewitz, 109.

Heinl, Robert D., Jr., quoted in Zais, Mitchell M., "Generalship and the Art of Senior Command: Historical and Scientific Perspectives", Thesis, Fort Leavenworth KS: U.S. Army Command and General Staff College, 1985, 50. ¹⁹ Zais, Mitchell M., "Strategic Vision and Strength of Will: Imperatives for Theater Command", <u>Parameters</u>, Winter 1985, 60.

²⁰ Hackett, Sir John, The Profession of Arms, (New York: MacMillan), 227.

²¹ Slim, 7.

²² Connolly, Richard, an address delivered to the Naval War College in 1955, transcript on file, pp. 3-9.

²³ Clausewitz, 109.

²⁴ Gardner, 19.

²⁵ Ibid, 13.

²⁶ No taxonomy of attributes for the senior leader in TQ could be found. Eugene Black uses knowledge, skills and abilities as a framework for examining TQL, and contains the best compilation of available public and private sector listing of attributes, but the work is focused at the "tactical" TQL Coordinator/Facilitator level. Gatanas and Brace provide a good analysis of leadership according to the 14-point framework of Dr. W.E. Deming. Dr. Deming's work, along with Roger Kirkham and the authors cited above, was used to develop the attributes of the senior TQ Leader. See Black III, Eugene H. "Total Quality Leadership Knowledge, Skills and Abilities for Surface Warfare Officers", Unpublished Thesis, (Monterey CA: U.S. Naval Postgraduate School, 1994); Gatanas, Harry D. and Robert A. Brace, "Leadership and Total Quality Management", (Carlisle Barracks, PA: U.S. Army War College, 1992); and Kirkham, Roger L. A Better Way: Achieving Total Quality, (Salt Lake City, UT: American Training Alliance, 1992).

²⁷ McFarland, Lynne Joy, Larry E. Senn and John R. Childress. <u>21st Century Leadership: Dialogues With 100 Top Leaders</u>, (New York: The Leadership Press, 1994), 120.

²⁸ Kirkham, 129.

³⁰ Simons, Robert. "Control in an Age of Empowerment", Harvard Business Review, March-April 1995, 80.

Cox, Anthony J., "Total Quality Public Works Management", unpublished paper, p. 20.
Juran, Joseph .M. (Juran on Planning for Quality, New York: The Free Press, 1988), 4.

All systems exhibit variation, with two causes: problems due to fleeting events (special causes) or problems due to the system itself (common causes). Special causes can be eliminated through direct leadership decision (e.g. fire somebody, replace the machine) etc.; common causes are remedied through process improvements.

³⁴ Deming, W. Edwards, Out of the Crisis, (Cambridge, MA: Massachusetts Institute of Technology Center for

Advanced Engineering Study, 1986), 315.

³⁵ Shuster, H. David. <u>Teaming for Quality Improvement: A Process for Innovation and Consensus</u>, (Englewood Cliffs, NJ: Prentice Hall, 1990), 4.

Ritter describes the functions of providing purpose, establishing direction and generating motivation based on the Army Leadership Manual, FM 100-5. Kotter presents the same three functions, crediting Bennis and Nanus, and Peters, among other "important works on leadership in modern organizations. See Ritter, George P. "Leadership of the Operational Commander: Combat Multiplier or Myth?", Fort Leavenworth KS: U.S. Army Command and General Staff College, 1993; Bennis, W.G., and B. Nanus. Leaders: The Strategies for Taking Charge, (New York: Harper and Row, 1985); and Peters, T.J. and N. Austin, A Passion for Excellence: The Leadership Difference, (New York: Random House, 1985).

³⁷ Banisch, 53.

³⁸ Slim, 5.

39 Waddell, 30.

⁴⁰ Ibid, 39.

⁴¹ Howard, J. Daniel. "The Only Way Ahead", U.S. Naval Institute Proceedings, June 1992, 86, inter alia.

12 Ibid.

⁴³ Kirkland, Faris R. "Combat Leadership Styles: Empowerment Versus Authoritarianism", <u>Parameters</u>, December 1990, 61.

44 Ibid., 62.

45 Ibid, 68.

⁴⁶ Garant, 16.

⁴⁷ Deming, W. Edwards, 23. Dr. Deming's "14 points" are held up somewhat awkwardly as the "Commandments of TQM". Actually, TQM is corporately marketed buzzword for the philosophy embodied in the techings of Deming, J.M. Juran, Phillip Crosby, Myron Tribus, Tom Peters and several business leadership theorists. It is not just Deming, and he did not coin the term. In fact, when asked about TQM at a seminar once, Dr. Deming queried the questioner, "TQM? Whats that? I have never heard of that." It is significant that this was his consistent response EVERY time he was adked about "TOM".

Blanchard, Kenneth H. "SLII: A Situational Approach to Managing People", (Blanchard Training and Development, Inc., 1985), 5.

49 Banisch, 60.

⁵⁰ Byron, 31.

⁵¹ Ibid., 33.

⁵² Slim, 9.

⁵³ Senge 213.

54 Kirkham, 4.

55 Ritter, 14.

56 Ibid.

⁵⁷ Hackett, 220.

⁵⁸ Byron, 35.

⁵⁹ Zinni, Anthony. "It's Not Nice and Neat", (U.S. Naval Institute Proceedings, August 1995), 26.

⁶⁰ Sullivan, Thomas. "Aspiration and Courage", Lecture, U.S. Naval War College, Newport, RI: , 9 Oct 1996.

61 Howard, 86.

²⁹ Senge Peter M. The Fifth Discipline: The Art and Practice of the Learning Organization, (New York: Doubleday, 1990), 206.

BIBLIOGRAPHY

OPERATIONAL LEADERSHIP

BOOKS

- Clausewitz, Carl von, On War. (Michael Howard and Peter Paret, Eds. And Trans.), Princeton, NJ: Princeton University Press, 1984. (originally published 1832).
- Hackett, Sir John, The Profession of Arms. New York: MacMillan, 1983.
- Smith, Perry M. <u>Taking Charge: Making the Right Choices</u>, Garden City Park, NY: Avery Publishing Group, 1993.
- Taylor, Robert L., and William E. Rosenbach, (Eds.), Military Leadership: In Pursuit of Excellence, Boulder, CO: Westview Press, 1984.

ARTICLES AND PERIODICALS

- Banisch, Werner W. "Leadership at the Operational Level, Army, August 1987, 50.
- Freund, Kirk L., "Management is a Vital Part of Leadership", U.S. Naval Institute <u>Proceedings</u>, November 1994, 84.
- Lorenson, Jay L. "Marshall-ing Joint Leadership", U.S. Naval Institute Proceedings, September 1994, 78.
- Zais, Mitchell M., "Strategic Vision and Strength of Will: Imperatives for Theater Command", <u>Parameters</u>, Winter 1985, 59.
- Zinni, Anthony. "It's Not Nice and Neat", U.S. Naval Institute Proceedings, August 1995.

THESES, STUDIES AND OTHER PAPERS

- Black, Charles M. "Leadership at the Operational Level", Carlisle Barracks, PA: U.S. Army War College, 1988.
- Brinkley, Phillip L. "The Operational Commander's Will: An Intangible Element in Victory", Fort Leavenworth KS: U.S. Army Command and General Staff College, 1986.
- Connolly, Richard, an address delivered to the Naval War College in 1955, transcript on file, pp. 3-9.
- Gardner, Gregory C. "Generalship in War: The Principles of Operational Command", Fort Leavenworth, KS: U.S. Army Command and General Staff College, 1987.
- Kornatz, Steven D. "The Operational Art of Admiral Togo", Newport, RI: Naval war College, May 1995.
- Ritter, George P. "Leadership of the Operational Commander: Combat Multiplier or Myth?", Fort Leavenworth KS: U.S. Army Command and General Staff College, 1993.
- Rubel, Robert C. "Operational Level of Leadership", Unpublished Paper, January 1996.

- Slim, William. "Higher Command in War", Kermit Roosevelt Lecture, U.S. Army Command and General Staff College, Fort Leavenworth, Kansas (unk.)
- Vego, Milan. "Operational Leadership", Newport RI: Naval War College, September 1996.
- Zais, Mitchell M., "Generalship and the Art of Senior Command: Historical and Scientific Perspectives", Thesis, Fort Leavenworth KS: U.S. Army Command and General Staff College, 1985.

TOTAL QUALITY LEADERSHIP

BOOKS

- Bennis, W.G., and B. Nanus, <u>Leaders: The Strategies for Taking Charge</u>, New York: Harper and Row, 1985.
- Byham, William C., with Jeff Cox. Zapp! The Lightning of Empowerment, New York: Ballantine Books, 1988.
- Deming, W. Edwards. Out of the Crisis, Cambridge, MA: Massachusetts Institute en Chnology Center for Advanced Engineering Study, 1986.
- Juran Joseph M. Juran on Planning for Quality, New York: The Free Press, 1988.
- Kirkham, Roger L. <u>A Better Way: Achieving Total Quality</u>, Salt Lake City, UT: American Training Alliance, 1992.
- Kotter, John P. <u>A Force for Change: How Leadership Differs From Management</u>, New York: The Free Press, 1990.
- Locke, Edwin A., and Associates. <u>The Essence of Leadership: The Four Keys to Leading Successfully,</u> New York: Lexington Books, 1991.
- McFarland, Lynne Joy, Larry E. Senn and John R. Childress. 21st Century Leadership: Dialogues With 100 Top Leaders, New York: The Leadership Press, 1994.
- Peters, T.J. and N. Austin, A Passion for Excellence: The Leadership Difference, New York: Random, House, 1985.
- Senge, Peter M. The Fifth Discipline: The Art and Practice of the Learning Organization, New York: Doubleday, 1990.
- Shuster, H. David. <u>Teaming for Quality Improvement: A Process for Innovation and Consensus</u>, Englewood Cliffs, NJ: Prentice Hall, 1990.

ARTICLES

- Barna, Tom D. "TQL: Not What We Expected", Marine Corps Gazette, March 1993, 22.
- Byron, John L. "Welcome to the Revolution", U.S. Naval Institute Proceedings, October 1991, 30.
- Galpin, Timothy J. "Who Needs TQL?", U.S. Naval Institute Proceedings, April 1994, 98.

- Garant, Pierre C. and Richard P. Flatau, Jr. "Is the Marine Corps Prepared for Total Quality Leadership?", Marine Corps Gazette, March 1993, 16.
- Howard, J. Daniel. "The Only Way Ahead", U.S. Naval Institute Proceedings, June 1992, 85.
- Kelso, Frank B. "Total Quality Leadership: The Way of the Future", U.S. Naval Institute <u>Proceedings</u>, June 1991, 107.
- Kirkland, Faris R. "Combat Leadership Styles: Empowerment Versus Authoritarianism", <u>Parameters</u>, December 1990, 61.
- Shrader, Dale G. "What TQM is Not: TQM and the Selfless Nature of Quality", <u>Program Manager</u>, March-April 1995, 26.
- Simons, Robert. "Control in an Age of Empowerment", Harvard Business Review, March-April 1995, 80.
- Swisher, Peter K. "The Case for Total Quality Leadership", Marine Corps Gazette, March 1993, 19.
- Townsend, Patrick L. and Joan E. Gebhardt. "Total Quality Leadership or Partial Quality Management?", Marine Corps Gazette, March 1993, 23.
- Waddell III, Donald E. "A Situational Leadership Model for Military Leaders", <u>Airpower Journal</u>, Fall 1994, 29.

THESES, STUDIES AND OTHER PAPERS

- Black III, Eugene H. "Total Quality Leadership Knowledge, Skills and Abilities for Surface Warfare Officers", Unpublished Thesis, Monterey CA: U.S. Naval Postgraduate School, 1994.
- Blanchard, Kenneth H. "SLII: A Situational Approach to Managing People", Blanchard Training and Development, Inc., 1985.
- Cox, Anthony J., "Total Quality Public Works Management", unpublished paper, Naval School, Civil Engineers Corps Officers, March 1990.
- Garvey, Patrick K. and Thomas F. Watson. "DOD Total Quality Management for Improved Joint Combat Capability, Carlisle Barracks, PA: U.S. Army War College, 1993.
- Gatanas, Harry D. and Robert A. Brace, "Leadership and Total Quality Management", Carlisle Barracks, PA: U.S. Army War College, 1992.
- USS George Washington (CVN 73). "Strategic Plan 1996-1997".